

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Seventh Edition 2014 with 2015 Interim Revisions.

DESIGN LOADING

Live Load HL - 93 Modified

TRAFFIC DATA

Current (2014) AADT 6,848
Future (2034) AADT 9,587

MATERIALS

Concrete:
Structural Wearing Surface Class "LP"
Barriers, Curbs, Sidewalks & Transition Barriers Class "LP"
Seals Class "S"
Reinforcing Steel Class "A"
ASTM A 615/A 615M, Grade 60
Structural Steel:
All Material (except as noted) ASTM A 709, Grade 50W
High Strength Bolts ASTM A 325, Type 3

BASIC DESIGN STRESSES

Concrete f 'c = 4000 psi
Precast Concrete f 'c = XX psi
f 'ci = XX psi
Reinforcing Steel f y = 60,000 psi
Prestressing Strand F μ = 270,000 psi
Structural Steel:
ASTM A 709, Grade 50W F y = 50,000 psi
ASTM A 709, Grade 36 F y = 36,000 psi
ASTM A 325 F μ = 120,000 psi

LIST OF DRAWINGS

Title Sheet 1
Armored Joint Plans 2
Joint Sections 3
Steel Details 4

LEWISTON
ANDROSCOGGIN COUNTY
VETERANS MEMORIAL BRIDGE RAMP 'A'
OVER
MAINE CENTRAL RAIL ROAD
BRIDGE NO. 1370



MAINTENANCE OF TRAFFIC

Maintain one 12'-0" wide lane of one - way traffic using temporary traffic control barriers.

PROJECT LOCATION	Ramp 'A' Exit from Vietnam Veterans Memorial Bridge over Maine Central Rail Road in Lewiston. Lat./Long. 44°6'45.6" N 70°12'37.3" W
PROGRAM AREA	Bridge and Structure Maintenance
OUTLINE OF WORK	Replace existing Armored Joint and Seal with New Joint and Seal.

WIN 21553.00

LEWISTON
VETERANS MEMORIAL BRIDGE

TITLE SHEET

SHEET NUMBER

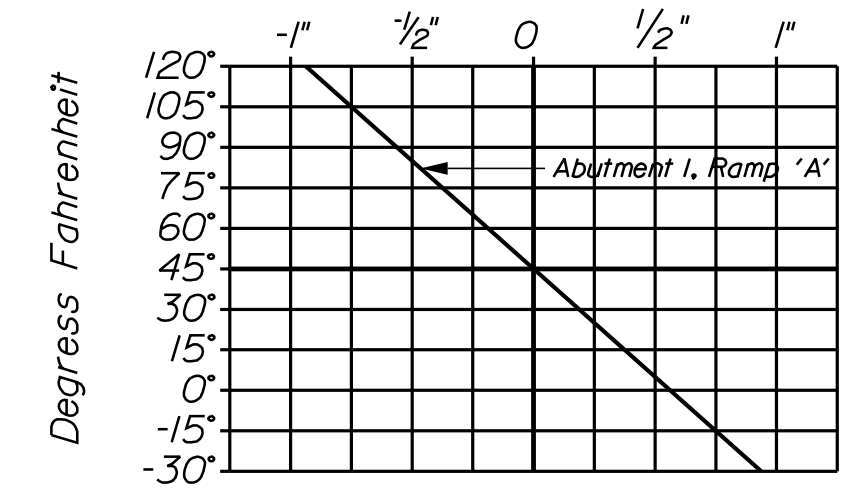
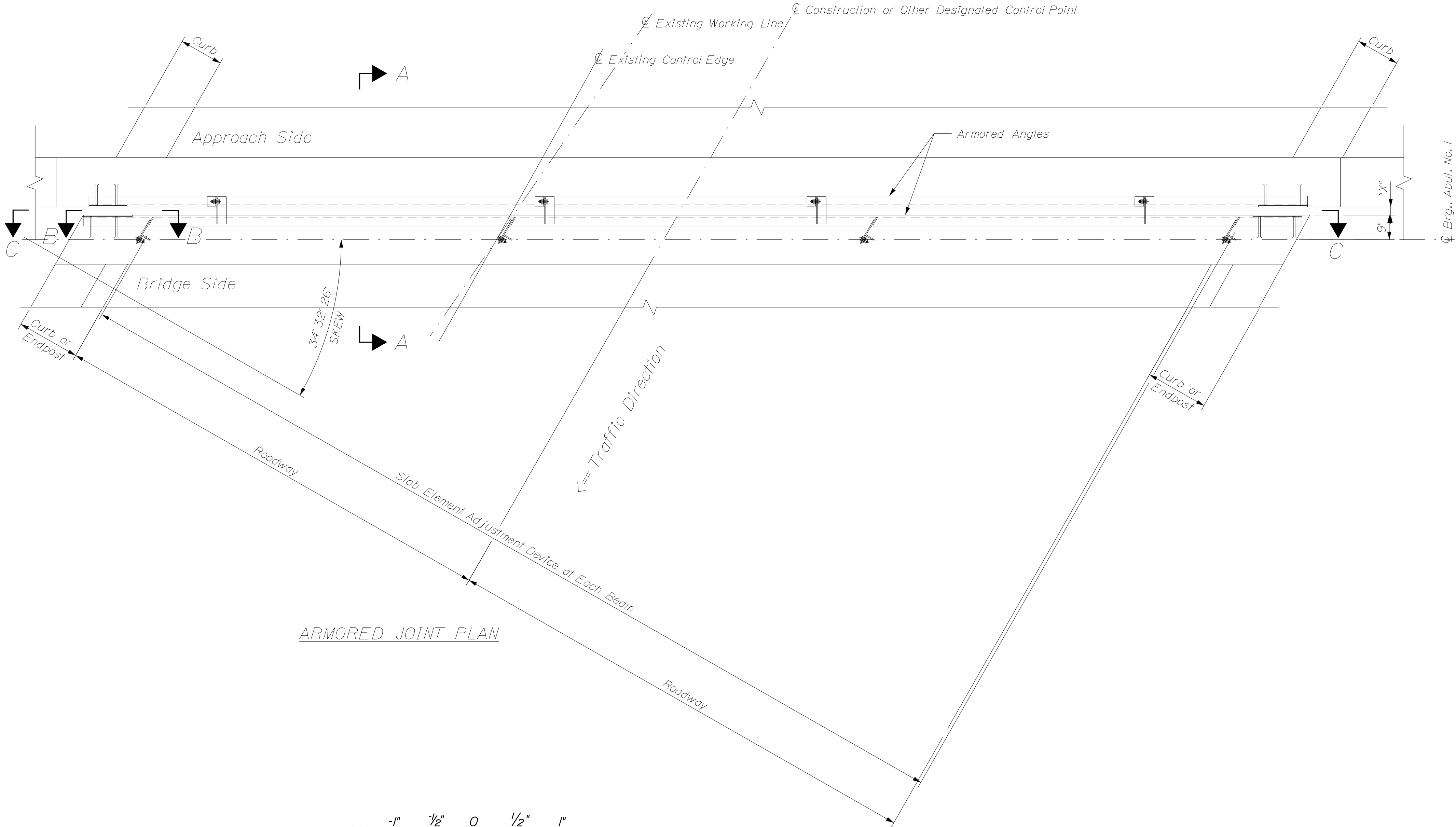
1

OF 4

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
COMMISSIONER:	DEPUTY CHIEF ENGINEER:	

APPROVED RECOMMENDED APPROVAL CONCURRED	SIGNATURE	P.E. NUMBER	DATE
NOT APPROVED			

PROJECT INFORMATION	Bridge & Structure Maintenance	PROGRAM	PROJECT MANAGER	DESIGNER	CONSULTANT	PROJECT RESIDENT	CONTRACTOR	PROJECT COMPLETION DATE
	B. Snowden							



SEAL ADJUSTMENT CHART
This joint was designed for 2" opening at 45 Degrees

GENERAL CONSTRUCTION NOTES:

1. The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for construction of the bridge. It is very unlikely that the plans will show any construction field change or any alterations which may have been made to the bridge during it's life span.
2. Dimensions shown are from existing plans and may differ from actual field dimensions. Field verify all dimensions prior to construction.
3. The top of the concrete slab where concrete has been removed or rehabilitated shall be prepared to a suitable surface to receive the membrane waterproofing by a method approved by the Engineer. Payment for all labor, materials, and equipment will be incidental to related contract items.
4. Any necessary adjustments to existing rail post and the removal and replacement of curb concrete shall be as approved by the Engineer. Payment will be considered incidental to the appropriate Bridge Joint Replacement Pay Items.
5. Existing Granite/Concrete curb which requires removal in order to install the armored joints and seal shall be carefully and neatly cut off as required. Concrete shall be placed to the limits shown on the plans. Payment will be considered incidental to related contract items.

JOINT OPENING NOTES:

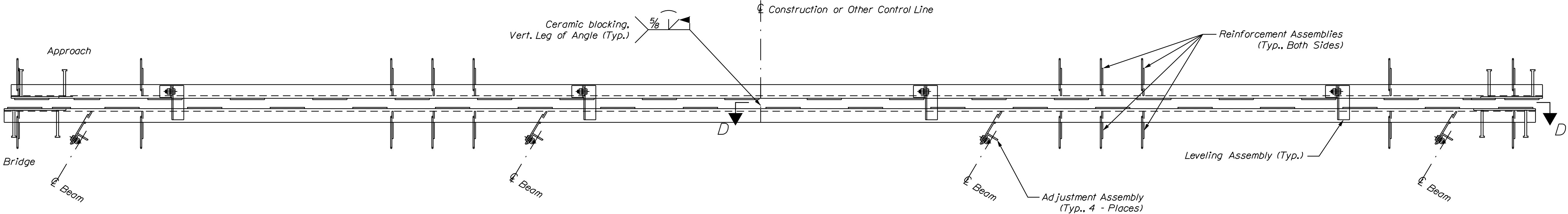
The Expansion Device shall be set to an opening of 2" inches in the Fabrication Shop. The joint opening shall be adjusted for temperature in the field at the time of installation using the following formula:

$$0.00008 \times "D" \times "\Delta T" = \text{Adjustment (in inches)}$$

"D" is the distance in feet between the backwall and the nearest fixed bearing (for joints at abutments) or between the fixed bearings at either side of the expansion joint (for joints or piers).

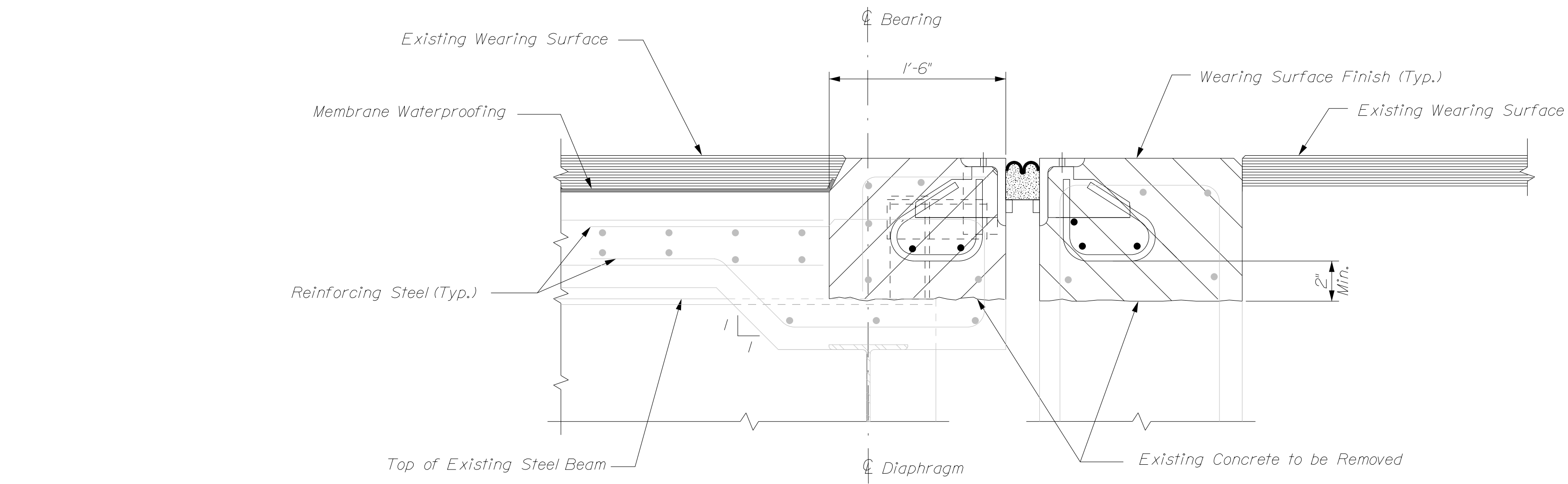
"ΔT" is the difference between the temperature of the bridge girders and 45°F.

A structure temperature above 45°F will result in a smaller joint opening.

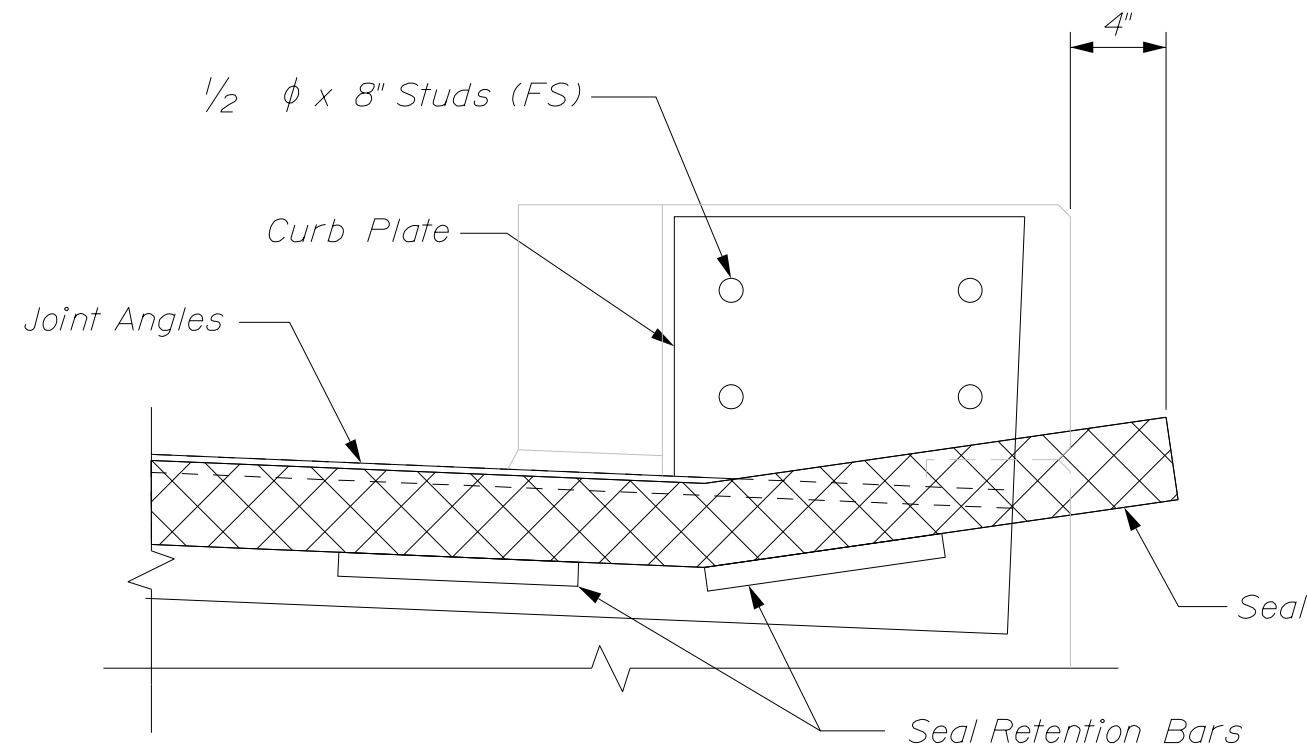


JOINT PLAN VIEW

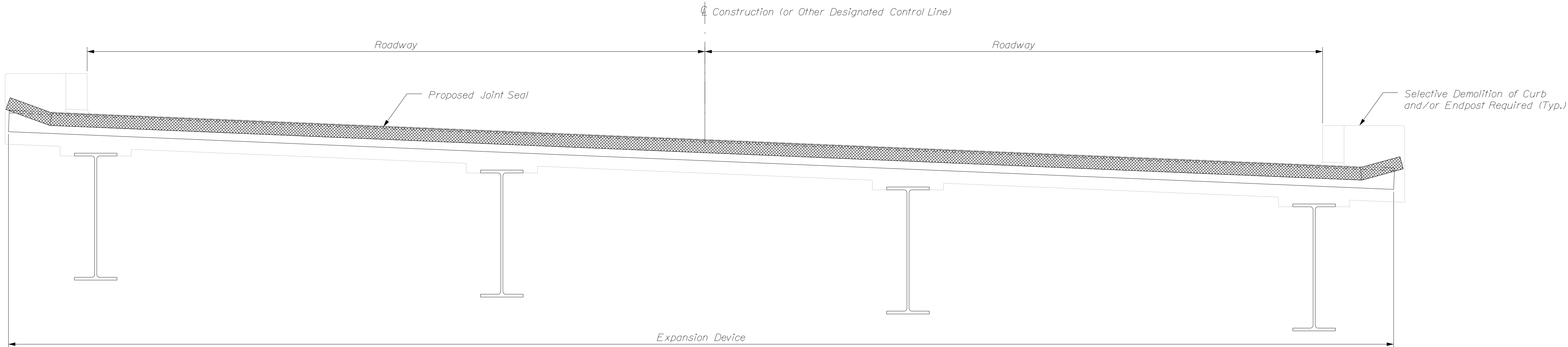
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	VETERANS MEMORIAL BRIDGE/RAMP 'A'			
	MAINE CENTRAL RAIL ROAD			
	LEWISTON			
ARMORED JOINT PLANS	ANDROSCOGGIN			
	ARMORED JOINT PLANS			
	SHEET NUMBER			
2				OF 5
BRIDGE NO. 1370				WIN 21553.00
BRIDGE PLANS				



SECTION A - A



SECTION B - B



Section C - C

CONCRETE HEADER NOTES

1. The existing concrete shall be removed so as not to damage existing vertical and horizontal steel in the parapets or the longitudinal and transverse reinforcing steel in the superstructure and abutment. Any damaged reinforcing steel shall be replaced at the Contractors expense.
2. Existing reinforcing steel to remain shall be cleaned as directed by the Resident prior to placing new concrete.
3. All rebar splices shall be 18" minimum.
4. Reinforcing steel shall have a minimum 2" of cover unless otherwise noted.
5. All adjustment angles shall be welded after final position adjustments are made.
6. Welding to reinforcing steel is allowed in the top of the abutment backwall above the block-out joint.
7. Concrete removal limits depend on the existing bridge and may not match what is shown here. Refer to existing bridge plans and field measurements. Limits may be reduced with the approval of the Resident.
8. Protective coating for concrete surfaces shall be applied to all exposed surfaces of new concrete. Payment shall be considered incidental to related contract items.

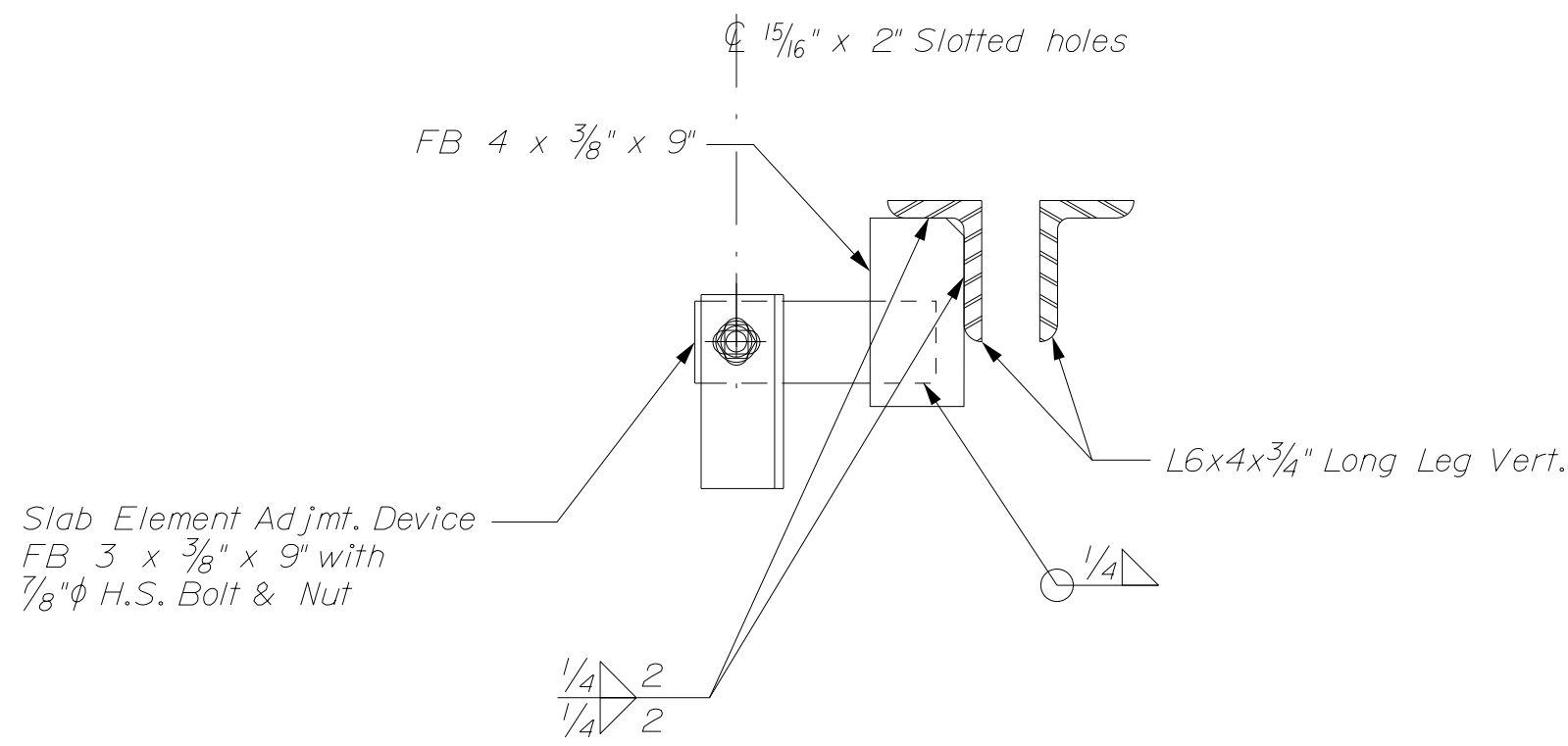
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		ARMORED JOINT PLANS		BRIDGE NO. 1370		WIN 21563.00		BRIDGE PLANS	
VETERANS MEMORIAL BRIDGE/RAMP 'A'		MAINE CENTRAL RAIL ROAD		ANDROSCOGGIN		LEWISTON		ARMORED JOINT SECTIONS		SHEET NUMBER	
										3	
										OF 4	

Date:5/13/2016

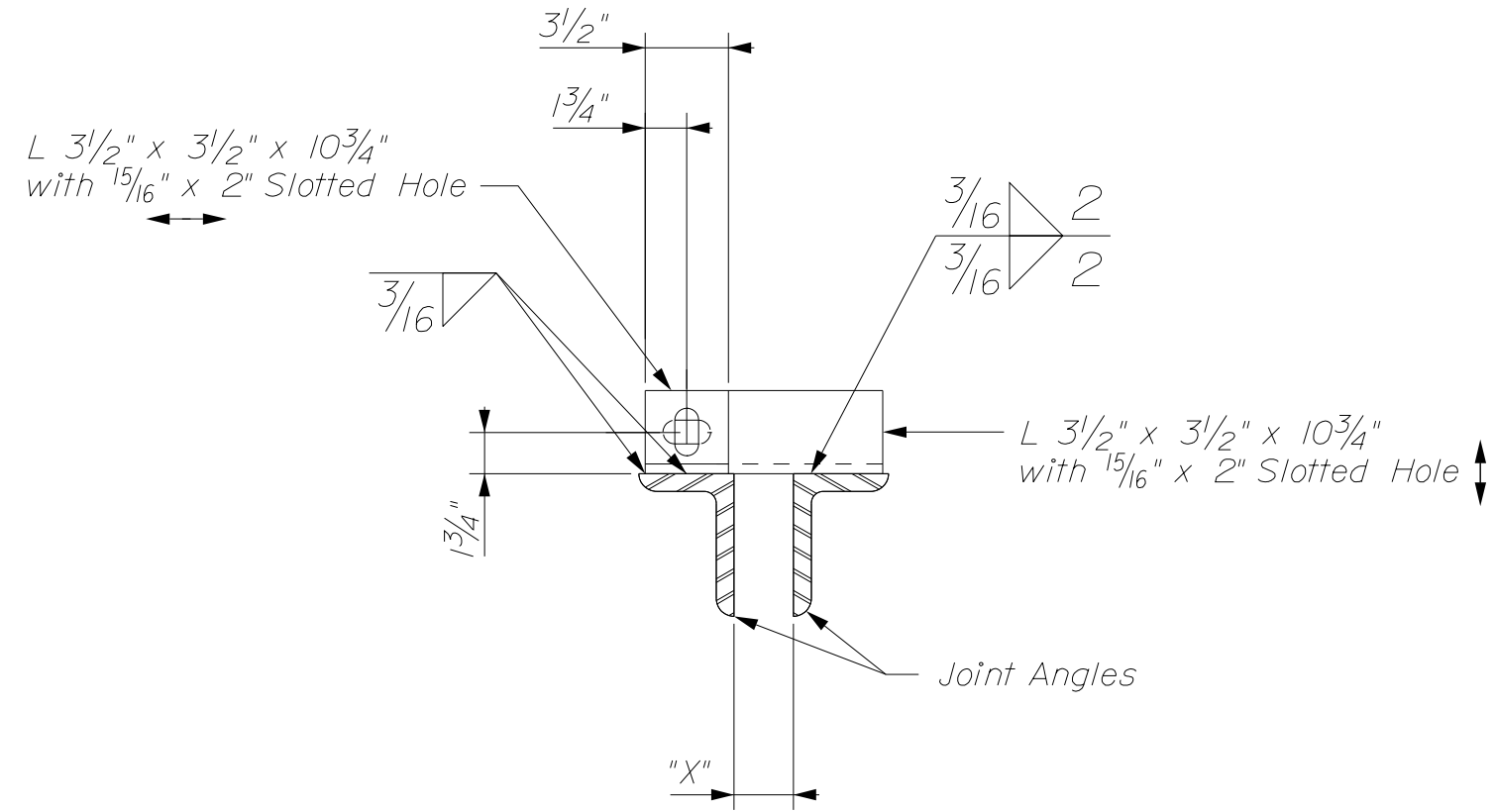
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Division: BRIDGE

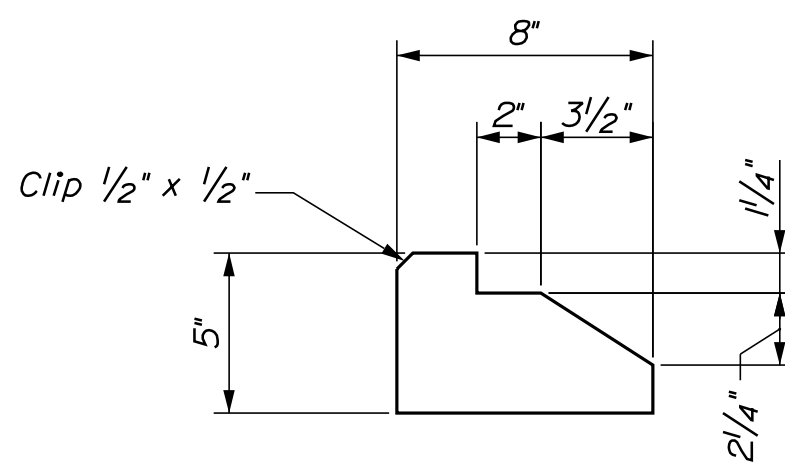
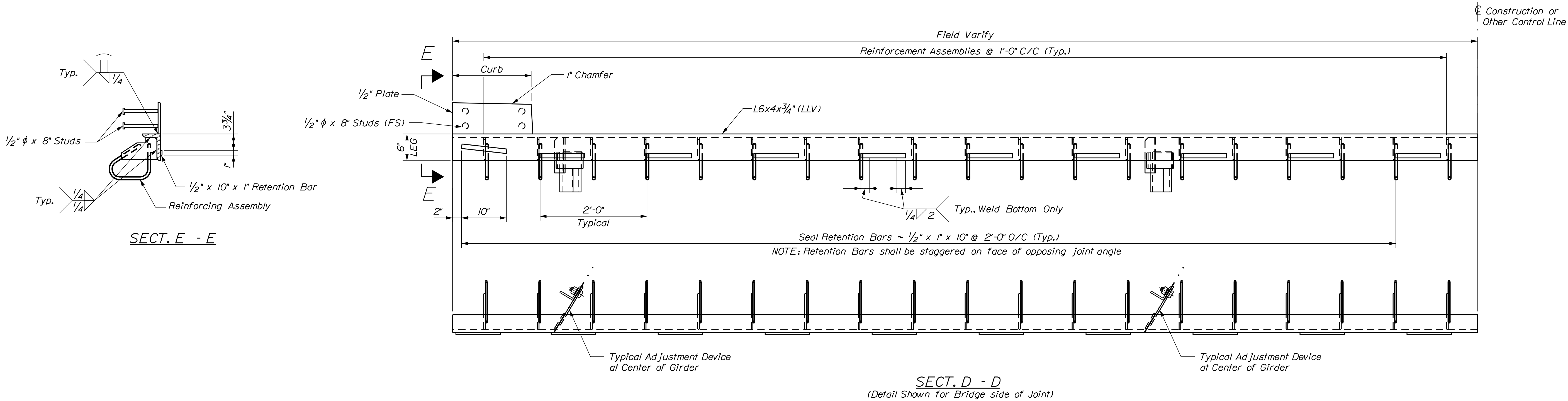
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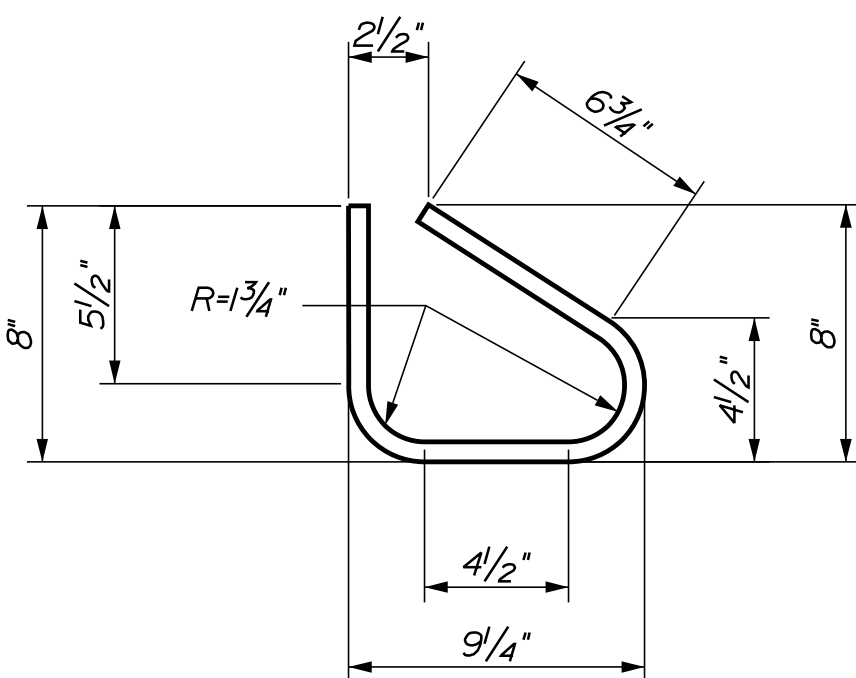
SLAB ELEMENT ADJUSTMENT DEVICE



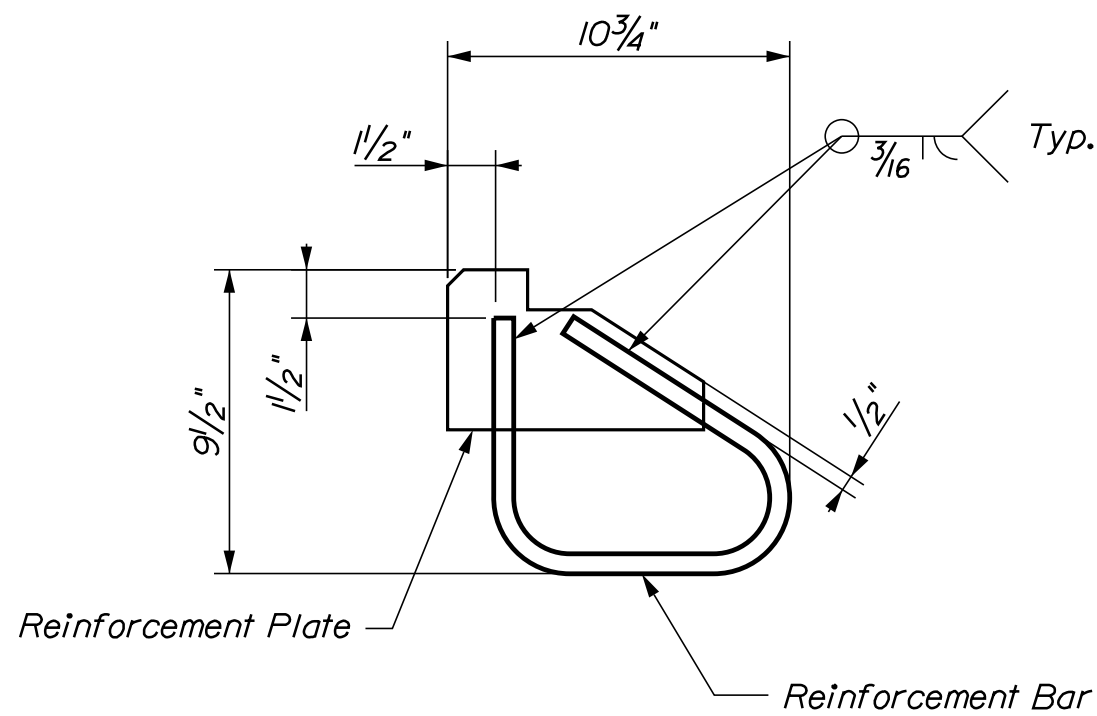
LEVELING ASSEMBLY



Detail of Reinforcement Plate



Detail of Bent Reinforcement Bar



Typical Reinforcing Assembly Detail

HEAVY DUTY JOINT NOTES

1. The Contractor shall field measure the existing deck and joint and adjust the joint shop drawings accordingly. The curb plates shall be flush or slightly recessed from the concrete faces to avoid catching plows.
2. The Expansion Device shall be fabricated to be installed normal to grade.
3. The joint armor shall be furnished and installed un-galvanized.
4. The Contractor will furnish and use a BEJS-0250 seal from EMSEAL or an equal as approved by the Resident. Submit the selected seal to the Department with the shop drawings.
5. Prior to the installation of the seal the steel surfaces to receive the adhesive shall be blasted clean and solvent washed per the seal manufacturer's instructions.
6. Heavy Duty Bridge Joint shall be paid for under Pay Item No. 910.301, Special Work ~ Lump Sum.

VETERANS MEMORIAL BRIDGE/RAMP 'A' MAINE CENTRAL RAIL ROAD LEWISTON ANDROSCOGGIN	PROJ. MANAGER	B. SNOWDEN	BY	DATE
	DESIGN-DETAILED	A. FARRINGTON	C. LIBBY	March 2016
	CHECKED-REVIEWED			
	DESIGN2-DETAILED2			SIGNATURE
	DESIGN3-DETAILED3			P.E. NUMBER
STEEL DETAILS	REVISIONS 1			
	REVISIONS 2			
	REVISIONS 3			
	REVISIONS 4			DATE
	FIELD CHANGES			
SHEET NUMBER				
4				
OF 4				
STATE OF MAINE DEPARTMENT OF TRANSPORTATION				
ARMORED JOINT PLANS				
BRIDGE NO. 1370 WIN 21553.00 BRIDGE PLANS				